SECTION 8
ENVIRONMENTAL EVALUATION

This section continues the description of the physical characteristics of the Cochise College Airport site including the geography, topography, climate, flora, fauna, archeological and cultural resources, air and water quality, and the surrounding built environment. In addition, this section describes the local regulatory environment and presents an environmental overview and fatal flaw analysis of the recommended airport improvements.

NATURAL ENVIRONMENT

Geography, Topography, Climate

Cochise College Airport is located in the Sulphur Springs Valley of the Chihuahua Desert. This valley is surrounded by the Swisshelm and the Perilla Mountains to the east and the Mule Mountains to the west and is less than 40 miles to the Chiricahua Mountains.

The Chihuahuan Desert covers about 140,000 square miles in the U.S. and Mexico. It is 1200 miles long and 800 miles wide. This desert is characterized by cool winters, especially in the northern reaches where nighttime temperatures drop below freezing on average over 100 times per year, and hot summers, with daytime high temperatures in parts of Mexico reaching a reported 122 degrees F. The dry early-summer months of May and June are typically the hottest part of the year in the Chihuahuan Desert. The mean daily maximum temperature of the hottest month is 93.9 degrees Fahrenheit. Rain typically comes to the Chihuahuan Desert only from July to October. As much as 90% of the annual rainfall takes place during this period.

At an elevation of 4124 feet, the immediate topography around the airport site is the relatively flat, Chihuahuan Desert basin. The Master Plan survey shows and elevation of 4143.01 West end of the airport runway, and an elevation of 4106.64 on the East end - a difference of 36.37 feet. This is a 0.72% grade which over a mile.

Over the last 32 years, Cochise College's campus and airport construction and educational activities have disturbed almost all the Desert Scrub on the 400-acre site. Within the campus, and most particularly in the airport improvement sites along the runways, taxiways and aprons there are no distinct topographic features such as canyons, caves, cliffs, crevices, or ledges. During research and reconnaissance no hydrologic features such as large or small streams (no sand or rock bottoms), ponds, pools, springs, aquatic areas, marshes, riparian areas or backwaters were found to be associated with the site. During research and reconnaissance plant communities on the airport site

were not found to include woods, forests, columnar cacti, tropical or subtropical areas, savannah, bosques, grasslands, or prairies.

The classroom and dormitory portion of the campus has been landscaped with non-native grass, shrubs, and trees. The airport portion of Cochise College is landscaped with non-native grass, shrubs, and trees only in front of the Technology Center building. The remainder of the airport grounds is modestly maintained low desert scrub with mown areas along the runways, taxiways, and apron.

Flora

In the lower elevations of the Chihuahua Desert region, such as that of the Cochise College Airport, the naturally occurring flora is classified as "Chihuahua Desert Scrub" which comprises up to one half of the total vegetation. This mix of plants includes the indicator species of Lechuguilla or *Agave lecheguilla*. Also common are the Creosote bush *Larrea tridentata,* several species of yucca *Yucca* sp., Prickly pears, *Opuntia* sp., Ocotillo, *Fouquieria splendens*, and Parry's century plant *Agave parryi*. Desert Grasslands may occur on plateaus, rolling hills, and basin floors. Tobosa Grass flats occur in low elevations where water run-off tends to accumulate while beargrass and sotol commonly occurs on hillsides. It is said that there is more diversity of cacti in the Chihuahuan Desert than in any other region. The common cacti include the Prickly Pears, Hedgehogs, Living Rocks, Nipple Cacti, and Corys. However, since most of the land in and around Cochise College and the Cochise College Airport have been disturbed by agriculture, mining, infrequent and scattered residences, and the activities of the college itself, there is minimal natural vegetation present.

The US Fish and Wildlife Service has provided a list of threatened, endangered, proposed and candidate species that includes all those potentially occurring anywhere in Cochise County (see Appendix E). This information includes general descriptions, habitat requirements, and other information for each species on the list. While no expert habitat search has been done on the airport, of the plant species listed, research and reconnaissance did not uncover any likely habitats in the proposed improvement areas. The three listed species follow.

- Canelo Hills Ladies' Tresses. Habitat: Finely grained, highly organic, saturated soils of Cienegas. None of these habitats were uncovered during research and reconnaissance.
- Cochise Pincushion Cactus. Habitat: Semidesert grassland with small shrubs, agave, other cacti, and grama grass. Grows on gray limestone hills. This habitat was not uncovered during research and reconnaissance.
- Huachuca Water Umbel. Habitat: Cienegas, perennial low gradient streams or wetlands. None of these habitats were uncovered during research and reconnaissance.

Fauna

The Chihuahuan Desert region has appropriate habitats for many species. For example, specialized invertebrates include the Desert Tarantula, Whip Scorpions or Vinegaroon, Desert

Milliped, a number of scorpions, the Giant Centipede, and numerous species of butterflies and moths. Many species of Pupfish that have evolved to take advantage of spring systems in the Chihuahuan Desert. Common Chihuahuan Desert amphibians include the Barred Tiger Salamander, spadefoot toads, and the Rio Grande Lizards such as whiptails, spinys, horned, collared, and geckos inhabit this desert. Snakes have evolved to take advantage of a wide range of conditions. There are many species of rattlesnakes.

There are a high number of bird species recorded in the region, but most are small populations of low-density non-resident or seasonal species. Mammals tend to be nocturnal such as the many and varied species of small insectivorous bat faunas. Mountain Lions, Gray Wolves, and Black Bear are some of the larger predators that still find habitat in the Chihuahua Desert. Mule Deer, Whitetail Deer, and Pronghorned Antelope are common, as are the Coyote, Collared Peccary, Ringtail, Blacktailed Jackrabbit, Spotted Ground Squirrel, a number of skunk species, packrats, and many nocturnal mice.

The US Fish and Wildlife Service has provided a list of threatened, endangered, proposed and candidate species that includes all those potentially occurring anywhere in Cochise County (see Appendix E). This information includes general descriptions, habitat requirements, and other information for each species on the list. While no expert habitat search has been conducted on the airport, of the fauna species listed, only a few potential habitats appear to occur in or near the airport:

- Lesser Long-Nosed Bat: Habitat: Desert Scrub with agave and columnar cacti present as food plants. (The college campus and surrounding parcels occur in highly disturbed and grazed desert scrub.)
- Chiricahua leopard frog (proposed species): Habitat: Streams, rivers, backwaters, ponds, and stock tanks that are free from introduced fish and bullfrogs. Require permanent or nearly permanent water sources. According to the State of Arizona Game and Fish Department, the Chiricahua leopard frog, *Rana chiricahuensis,* is the only Threatened or Endangered Species known to potentially exist within 5 miles of the Cochise College Airport. The Chiricahua leopard frog would exist there only to the extent that suitable habitat would be available, including permanent drainage areas where water might collect. Stock tanks with adequate may occur in the rodeo training ground on the campus north of the airport area or in the privately owned surrounding grazing land parcels. Additional information on the status of this species is located in the appendix. There are no known permanent water sources on the airport grounds.

Archeological and Cultural Resources

The Arizona State Historic Preservation Office (SHPO) is a division of Arizona State Parks. SHPO is responsible for the identification, evaluation, and protection of Arizona's prehistoric and historic cultural resources. The programs and services provided by SHPO's staff are diverse including conducting an ongoing historic/prehistoric resource survey program to identify, evaluate, and plan for the management of significant properties. Through a Review and Compliance program, SHPO assists Federal, state and local agencies in meeting preservation

responsibilities as defined by Federal and state laws. SHPO staff provides technical assistance through accessing state resource inventory files; reviewing Federal, state, county, and city projects to determine their possible impacts on cultural resources; explaining state and Federal compliance procedures; ensuring application of professional standards, and providing opinions on the National Register eligibility of resources. The Bureau of Land Management (BLM) is responsible for cultural resources located on public lands. The Arizona SHPO, the Arizona Historic Museum, and the Arizona BLM General Lands Office were contacted for this plan. The Arizona History Museum conducted a file search for sites within a one-mile radius of the airport. The results are shown in Table 8-1.

Table 8-1
RESULTS OF HISTORIC/CULTURAL SITE SEARCH
ARIZONA HISTORY MUSEUM

Section	Results
3	No sites; one survey 1970-7
2	No sites; no surveys
35	No sites; no surveys
34	No sites; no surveys
23	no sites; 1982-196
4	Sites AZ FF:10:33, 34, 35; 1992-112, 1995-303
9	AZ FF:10:33, 34, 35; 1992-112, 1995-303
16	No sites; no surveys
15	No sites; no surveys
14	AZ FF:10:40; 1982-196
10	AZ FF:10:33, 34, 35; 1992-112, 19995-303
11	AZ FF:10:33, 34, 35; 1995-303

This amounts to four sites, and four surveys.

Cultural surveys in the vicinity of the college and airport were conducted by the Arizona State Museum in 1970, 1992, and 1995.

The 1970 survey was on a “materials pit” north of the runway and west of the rodeo training ground on college land. No finds were made. The report of this survey is in the appendix.

The 1992 survey involved 8 acres along 1.2 miles of 10-foot wide right-of-way and 4 work areas 15 feet in diameter in portions of Sections 10, 4, 5, and 6 of T24S, R26E, east of Paul Spur.

These areas are south of State Highway 80 and north of the old Southern Pacific Rail Line. Features and isolated artifacts were found. None of these features or artifacts is associated with the Cochise College Airport.

The 1995 survey covered 368.94 acres over 17.31 mils of 50 to 200-foot wide right-of-way in portions of Sections in T24S, R24E; T23S, R 24E; T24S, R27E; and portions of Sections 4, 5, 9, 10, 11, and 12, T24S, R26E (near the college). Again, these areas are south of State Highway 80 in the area of the old Southern Pacific Rail Line. Features and isolated artifacts were found. None of these features or artifacts is associated with the Cochise College Airport.

In addition to the Museum surveys, for the 1984 Master Plan, an independent archaeological survey was conducted to evaluate the possibility of archeologically or culturally significant sites along the route of an extension to the taxiway. No evidence of cultural materials was found at that time.

Copies of recent and original reports are included in Appendix F.

The result of the document search is that there are no known archeological or cultural sites located on the airport grounds.

Air Quality

The Arizona Department of Environmental Quality (ADEQ) Air Quality Division (Planning) is responsible for air quality assessment and conformity in the state. Cochise College is located in a very rural area of Arizona, but within a few miles of know areas of Non-attainment. ADEQ lists Douglas, Arizona as a PM10 Non-attainment Area. Douglas is approximately seven miles east of the Cochise College Airport. The Douglas PM10 SIP indicated that 60.0 percent of the PM10 in the Douglas area originated in Mexico primarily (81.4 percent) generated from unpaved road fugitive dust. The second largest emissions source was agricultural activities (11.9 percent). Other sources of dust emission were paved roads, agricultural burning, cleared areas, windblown agricultural land, off road vehicles and unpaved parking lots. The Douglas PM10 SIP was submitted to EPA on June 16, 1993 and demonstrates attainment "but for emissions emanating outside the United States." It has been deemed complete and is waiting review and approval by EPA .

Paul Spur is located approximately two miles west of Cochise College Airport and is listed at a Non-attainment Area by the ADEQ. This is the site of a chemical lime mine and plant that stack and fugitive dust of which are the emission sources. Commitments to reduce particulate matter emissions were included in a SIP submitted to EPA in June 1990. EPA has deemed the Plan complete, but has not yet approved it .

Douglas is also listed as a Sulfur Dioxide Non-attainment Area. The emissions source is a copper smelter that was dismantled in late 1987. The Department is preparing a SIP showing Reasonable Further Progress and requesting redesignation to Attainment.

All roads internal to the college and the airport are paved with the exception of a dirt road bordering the eastern edge and leading to the rodeo training area. No air quality studies were done at the Cochise College Airport for this report.

Water Quality

Water quality assessment is the responsibility of another division of the ADEQ. The Southern Region office of Water Quality covers Groundwater Monitoring and Sourcewater Assessment, Surface Water Quality and Stream Ecosystem Monitoring, and Aquifer Protection Permits and Facility Plan Reviews. There is also a Drinking and Waste Water Systems Unit that is responsible for ensuring that public water systems deliver safe potable water to customers. The Arizona Statewide Watershed Framework defines watershed areas within the state and establishes a schedule under which ADEQ efforts area coordinated and focused within the watersheds.

The groundwater monitoring activities of the ADEQ are important to Cochise College Airport because the College pumps its potable water from a well located on the school grounds which are surrounded on three sides by a livestock pasture and grazing operation and is, in general, located in an agricultural area. Nonpoint sources of groundwater contamination are often agricultural. In addition, the College deposits its wastewater into a septic system.

The ADEQ Southern Region office was contacted during the preparation of this report, but no water quality studies were prepared.

BUILT ENVIRONMENT

Socioeconomic Overview

Population

According to the most recent official population figures produced by the Arizona Department of Economic Security (AZ DES), mid-year estimates for 1999 show 124,600 people reside in Cochise County. This resident population accounts for 2.5 percent of state of Arizona's total population of 4,961,953. Since the 1990 census, Cochise County's population grew by 27 percent, roughly 2.7 percent annually. The state as a whole grew over 33 percent for the decade. Sierra Vista is the largest city in the county (ranked 13th in the state), with an estimated population of 40,700. Douglas is the second largest community, with an estimated population of 15,000 (ranked 27th in the state). Bisbee, the county seat and the second most proximate town to the Cochise College Airport, has a population of approximately 6,525 and is ranked 44th in the state (Labor Market Information Unit, Research Administration, AZ DES, February 2000). The percentage of Cochise County's population distributed in the various age groups is proportionate to the statewide distribution. The population comparison between Cochise County and the State of Arizona is shown in Table 8-2.

Table 8-2
STATE OF ARIZONA AND COCHISE COUNTY POPULATION DISTRIBUTION BY AGE

Year	Total Population		Population Distribution by Age							
	Arizona	Cochise County	Age 0-19		Age 20-44		Age 45-64		Over 65	
			Arizona	Cochise County	Arizona	Cochise County	Arizona	Cochise County	Arizona	Cochise County
1997	4,595,379	116,737	1,353,427	35,188	1,713,477	40,833	889,740	24,109	638,735	16,607
1998	4,722,097	118,492	385,774	35,584	1,741,586	40,955	934,149	24,971	660,588	16,982
1999	4,842,987	120,179	1,414,567	35,936	1,773,118	41,066	977,009	25,907	678,293	17,270
Projected 2000	4,961,953	121,837	1,440,776	36,203	1,793,093	41,176	1,027,623	26,846	700,461	17,612
Projected 2005	5,553,849	129,680	1,572,155	37,501	1,903,665	41,157	1,283,132	31,884	794,897	19,138
Projected 2010	6,145,108	137,035	1,687,440	38,489	2,012,420	41,347	1,536,694	35,959	908,554	21,240
Projected 2015	6,744,754	143,793	1,806,690	39,328	2,135,995	42,580	1,728,292	37,289	1,073,777	24,596
Projected 2020	7,363,604	149,990	1,937,459	40,641	2,299,440	43,914	1,829,827	36,859	1,296,878	28,576

Source: www.de.state.az.us

Economy

Tourists are often attracted to Cochise County because of historic sites such as the Crystal Palace in Tombstone, or the historic saloons in Bisbee's Brewery Gulch. However, Cochise County is involved in the modern Arizona and regional economies. Fort Huachuca, more than 100 years old, remains a dominant and presently stable feature of the local economy (Labor Market Information Unit, Research Administration, AZ DES, February 2000), and Cochise College teaches many subjects including state of the art nursing and commercial aviation subjects.

Cochise College and its Airport are located less than 10 miles from the City of Douglas, Arizona, which is situated on the US/Mexican border. Douglas was founded in the early 1900's as a copper smelter site but has also been the supply-town to the surrounding area and its working cattle ranches. An historic annual round-up area for ranchers, agriculture and ranching are still important segments of the area's economy. According to the city's official web site (www.ci.douglas.az.us), Douglas is currently experiencing a transition from a copper and ranching town to one specializing in manufacturing and tourism. In July 1995, the city approved a General Plan that provides a balance between commercial, industrial, and housing needs. According to local sources, the economy of the Douglas area is very depressed. Phelps Dodge recently closed its smelting operations and left no hope of reopening after dismantling the equipment.

"Old Mexico" is just across the border from Douglas. International shopping and sightseeing are available in Agua Prieta, Sonora, Mexico. International commerce is also important to the local economy. Douglas benefits from the US/Mexico maquiladora program (twin plant concept). Douglas' sister city of Agua Prieta, Sonora, Mexico has 32 manufacturing plants producing clothing, electronics, printing, auto parts, disposable garments, plastic injection molding and other products.

Employment

Arizona continues to be one of the fastest job growth states in the nation. The AZ DES reports that the 10-year average growth of non-farm jobs in the state is 3.9 percent and is attributed to substantial gains in service-producing industry employment (trades and services). Total non-farm employment in Cochise County averaged 8 tenths of one percent average yearly growth from 1995-1998.. The largest growth occurred in finance, insurance and real estate (FIRE) which had average growth of 5 percent for the period. This compares well with the state, where the FIRE gain over this year alone is 6.1 percent. Construction in Cochise County also registered gains at an average of 4.5 percent for the period. The state's is higher with 6.1 percent this year, but lower than the 10-year average in this sector. The Government sector had the largest losses for the period losing 500 jobs or 1.9 percent per year, while the state's government employment sector grew at the rate of 3.6 percent this year (Labor Market Information Unit, Research Administration, AZ DES, February 2000 and *Arizona Quarterly Review*, Summer 2000, AZ DES, Research Administration). Table 8-3 describes the local employment distribution in the Douglas and Cochise College vicinity.

Table 8-3
DOUGLAS AREA CURRENT EMPLOYMENT

Major Employers	Product	Number of Employees
Arizona State Prison	Corrections	628
Douglas Unified School District	Education	600
Southeast Arizona Medical Center	Hospital	350
Cochise College	Education	265
U.S. Border Patrol	Government	252
City of Douglas	Government	245
Wal-Mart	Retail	204
Safeway	Grocery	145
U.S. Port of Entry	Government	67
White Knight	Hosptial Supplies	60
Gadsden Hotel	Hotel/Restaurant	60
Unique Molded Products	Plastic Products	30

Source: www.ci.douglas.az.us/City

AZ DES reports that during the 1995-1998 time period the largest industry job growth in Cochise County was in computer and data processing services (382 jobs), management and public relations (278 jobs), and grocery stores (184 jobs). The largest employment losses were in eating and drinking places (-153 jobs), electric services (-124 jobs), and trucking and courier services, excluding air (-104). For Arizona as a whole, a growth of 4.2 percent in 1999 and 4.5 percent in 1998 followed a pattern of moderate slowing from the 1994 peak of 6.8 percent (Labor Market Information Unit, Research Administration, AZ DES, February 2000).

While the Cochise County *labor force* fell roughly 3.7 percent each year from 1995 to 1998. Cochise County *employment figures* fell less, with an average annual decrease of 2.8 percent. According to AZ DES, this reduced the unemployment rate from 9.2 percent in 1995 to 6.8 percent in 1998 (Labor Market Information Unit, Research Administration, AZ DES, February 2000).

The AZ DES Research Administration is that forecasting employment in Cochise County will grow 3.08 percent in PY 99-00 and another 3.2 percent in PY 00-01. Countywide unemployment is expected to increase slightly from the PY 98-99 rate of 6.2 percent to 6.5 percent in PY 99-00 and 6.6 percent in PY 00-01. Statewide, the Administration forecasts a moderate growth rate in the upper 3 percent range for 2000 and 2001 (*Arizona's Workforce,* March 2, 2000, AZ DES, Research Administration). Table 8-4 describes the study area's recent labor market.

Table 8-4
DOUGLAS LABOR MARKET

Year	Civilian Labor Force	Employed	Unemployed	% Unemployed
1995	5,021	4,168	853	17.1
1996	4,856	4,072	784	16.1
1997	4,929	4,174	755	15.3

Source: www.ci.douglas.az.us/City

Income

The Bureau of Economic Analysis reports that from 1990 to 1997, local total personal income in Cochise County increased 46.6 percent compared to the State's 63.9 percent. On a per capita basis, the gain of 28.4 percent was nearly 4 percent below the State's per capita gain of 32.5 percent. Cochise County per capita income was $16,500 in 1997, about 75 percent of the state average, and down from 77.5 percent of the state average in 1990. While the average wage and salary earnings per job increased 2.7 percent in 1997, they were still less than the gain for the state at 4.2 percent (Labor Market Information Unit, Research Administration, AZ DES, February 2000).

Compatibility with Surrounding Land Uses

Land Use. The areas to the immediate west, north and east of the airport and the college campus are used for growing pasture and grazing cattle. Portions of the agriculturally used parcel to the east of the college and airport were used for military flight training operations circa World War II. State Highway 80borders the college on the south. The State of Arizona owns the land on the opposite site of State Highway 80 (Cochise County Planning and Zoning Department).

The county's comprehensive plan map shows all parcels immediately surrounding and including Cochise College as "Private." The land on the opposite side of State Highway 80, owned by the State of Arizona, is shown as "State Trust" (Cochise County Planning and Zoning Department).

A water well, presumably part of this agricultural operation, is located approximately 328 feet from the eastern end of Runway 23. Its presence, with some parts 4,115 feet in elevation (10 feet above the natural ground level in the area), along with an access road that runs along the college's eastern boundary, create the need for a displaced threshold for westbound landings.

Cochise County Zoning. Cochise College is located in unincorporated Cochise County where Cochise County zoning regulations are in effect. The college and airport are zoned RU-4 under Article 6, RU, Rural Zoning Districts. Under regulation 607.14, airports and flying fields, including private landing areas, are permitted as a Special Use in the RU zoning district, subject to the procedures and review criteria set forth in Section 1716. However, according to County officials, until 1975 there was no zoning regulation in the county. The college and airport were established over 30 years ago, thus Cochise College and the Cochise College Airport have no Special Use permits of any type on file with Cochise County.

Zoning of Surrounding Lands. The land used for agriculture to the west, north, and east of the airport, as well as the land south of SH 80, is also zoned RU-4. Permitted uses in this zoning district include residences, mobile home and manufactured home parks, utility installations, churches, animal hospitals, riding stables, grocery stores and agriculture-related retail sales, among other uses. Minimum site area in the RU-4 zoning district is 4.0 acres. Maximum density is one dwelling unit per acre. Maximum height is 30 feet above grade. Special uses include 43 different activities such as fairgrounds, solid waste transfer stations, manufacturing plants, wholesaling operations, commercial feed lots, educational services, and hospitals (Cochise County Planning and Zoning Department).

AA, Airport Airspace District. The Cochise County zoning regulation also includes AA, Airport Airspace District. This district is superimposed over existing zoning districts for the purpose of "regulating and restricting the height of structures and object of natural growth, and otherwise regulating the use of property in the vicinity of public airports and heliports designated on the Official Zoning District Map by creating airport approach, transitional, horizontal and conical zones, and establishing the boundaries thereof." Other restrictions are applied to height, electrical interference, lights and glare. County officials checked the official zoning map. Because none of the airport zones referenced in Section 1603.1 have been adopted for Cochise College Airport no

AA district is depicted on the map. If a new development were proposed near the airport that required County approval, the County Planning and Zoning officials report that they would consult with the college and consult the Airport Airspace Article to ensure safe development (Cochise County Planning and Zoning Department).

Development Proposals. According to the Cochise County Planning and Zoning office, there are no development proposals on file for any of the land surrounding the college. The nearest development is approximately one mile to the east. A lime mine and cement plant is located over two miles away to the west. Local sources report that pressure to develop residential units, or any of the other permitted or special uses listed in the RU-4 zoning district is quite limited.

Noise Analysis

The noise contour analysis developed for Cochise College Airport uses the Integrated Noise Model (INM) Version 6.0 software developed by the FAA Office of Environment and Energy, Noise Division (AEE-100). The FAA Integrated Noise Model is widely used by the civilian aviation community for evaluating aircraft noise impacts in the vicinity of airports. It is typically used for ART Part 150 noise compatibility planning and for environmental assessments and impact statements under the current version of FAA Order 1050.1.

As shown in the table below, Land Use Compatibility with Yearly Day-Night Average Sound Levels (YDNL), all land uses within the immediate vicinity of the airport are compatible with the airport. This table describes compatible land use information for several land uses as a function of YDNL. As stated in the FAA's Section A150.101 of Part 150 – Airport Noise Compatibility Planning, the ranges of YDNL values reflect the statistical variability for the responses of large groups of people to noise. Any particular level might not, therefore accurately assess an individual's perception of an actual noise environment. Compatible or non-compatible land use is determined by comparing the predicted or measured YDNL values at a site with the values given. Adjustment or modifications of the descriptions of the land-use categories may be desirable after consideration of specific local conditions. For purposes of compliance with this part, all land uses are considered to be compatible with noise levels less than Ldn 65 dB.

Table 8-5
LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS [a]

Land Use	Yearly day-night average sound level (Ldn) in decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
Residential						
Residential, other than mobile homes and transient lodgings	Y	N[b]	N[b]	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N[b]	N[b]	N[b]	N	N
Public Use						
Schools	Y	N[b]	N[b]	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y[c]	Y[d]	Y[e]	Y[e]
Parking	Y	Y	Y[c]	Y[d]	Y[e]	N
Commercial						
Use Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail--building materials, hardware and farm equipment	Y	Y	Y[c] Y[d]	Y[e]	N	
Retail trade--general	Y	Y	25	30	N	N
Utilities	Y	Y	Y[c]	Y[d]	Y[e]	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production						
Manufacturing, general	Y	Y	Y[c]	Y[d]	Y[e]	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y[g]	Y[h]	Y[i]	Y[i]	Y[i]
Livestock farming and breeding	Y	Y[g]	Y[h]	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arenas and spectator sports	Y	Y[f]	Y[f]	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts and camps	Y	Y	Y	N	N	N
Golf courses, riding stables and water recreation	Y	Y	25	30	N	N

Source: FAA: Part 150, Airport Noise Compatibility Planning, Appendix A to Part 150, Noise Exposure Maps.

Table 8-5
LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS [a]
(Continued)

Key to Table 8-5

SLUCM = Standard Land Use Coding Manual.

Y (Yes) = Land Use and related structures compatible without restrictions.

N (No) = Land Use and related structures are not compatible and should be prohibited.

NLR = Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.

25, 30, or 35 = Land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.

Notes for Table 8-5

[a] The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

[b] Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.

[c] Measures to achieve NLR 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

[d] Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

[e] Measures to achieve NLR 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal level is low.

[f] Land use compatible provided special sound reinforcement systems are installed.

[g] Residential buildings require an NLR of 25.

[h] Residential buildings require an NLR of 30.

[i] Residential buildings not permitted.

The Department of Housing and Urban Development, Office of environment and Energy, Environmental Planning Division has prepared guidance documents to assist HUD field staff and local government officials who are responsible for implementing Directive 51 (see appendix) as well as the private builders and developers who are affected by it. Part 51 contains only those criteria and standards that were developed specifically for HUD project and which are Department-wide in effect. While the regulations are only binding on HUD assisted projects and actions, local governments and others use them in evaluating projects and in preparing local plans. The table below shows HUD noise acceptability standards and is reported here as a means of measuring the effect of noise generated by flights from the Cochise College Airport on surrounding land uses.

Table 8-6
LAND USE GUIDANCE CHART FOR NOISE ACCEPTABILITY

Site Acceptability Standards	Day-Night Average Sound Level (in Decibels)	Special Approvals and Requirements
Acceptable	Not exceeding 65 dB [a]	None.
Normally Unacceptable	Above dB but not exceeding 75 dB.	Approvals [b] Environmental Review [c] Attenuation [d]
Unacceptable	Above 7 dB.	Special Approvals [b] Environmental Review [c] Attenuation [e]

Source: www.hudclips.org, Criteria and Standards, Directive Number 51.103, Housing and Urban Development.

[a] Acceptable threshold may be shifted to 70 dB in special circumstances pursuant to Sec 51.105(a).
[b] See Sec. 51.104(b) for requirements. (See appendix).
[c] See Sec. 51.104(b) for requirements. (See appendix).
[d] 5 dB additional attenuation required for sites above 65 dB but not exceeding 70 dB and 10 dB additional attenuation required for sites above 70 dB but not exceeding 75 dB. (See sec. 51.104(a).) See appendix.
[e] Attenuation measures to be submitted to the assistant Secretary for CPD for approval on a case-by-case basis.

The model was run for three scenarios resulting in a noise contour map for each. The three scenarios are:

- Current (1999) Flight Operations (Figure 8-1)
- 2020 Flight Operations (Figure 8-2)
- 2020 Flight Operations (Option) (Figure 8-3)

Assumptions used in the model are:

- Number of flight operations per aircraft type taken from Cochise College Airport Master Plan forecast.

- All flight operations distributed to runway ends as follows: runway End 5 – 65%; Runway End 23 - 35%.
- Time of flight operations is 85% day, 15% evening and 0% night.
- All military flight operations performed by T37B or equivalent.
- Turbo Prop operations performed by Cessna 500 or equivalent.
- The total numbers of flight operations remain the same in both 2020 scenarios.
- Current distributions of flight operations to single engine and multi-engine aircraft projected to future scenarios at the same ratio.

As shown in the noise contour maps, Figures 8-1 through 8-3, the noise profiles for each of the three scenarios are identical, indicating no Yearly Day Night Level (YDNL) exceeding 65 dB except in the immediate vicinity of the runway. While the future scenarios add flight operations to the airport's profile, the relatively low noise levels associated with the types of aircraft contribute little, if any, additional noise impacts when averaged over the entire year.

ENVIRONMENTAL OVERVIEW AND FATAL FLAWS ANALYSIS

This section of the Master Plan provides an overview of how Cochise College Airport's proposed improvements comply with FAA Order 5050.4, Airport Environmental Handbook. It discusses the applicability of pertinent chapters, sections, and paragraphs of the FAA and other Federal regulations and how the proposed airport improvements may or may not be subject to an environmental assessment. The purpose of this discussion is to discern if "fatal flaws" exist that would either prevent the construction of the proposed improvements because the impacts of construction would be beyond mitigation, or the actions would cause environmental impacts with undue mitigation costs.

FAA Order 5050.4, Airport Environmental Handbook, provides instructions and guidance for preparing and processing the categorical exclusions, environmental assessment, findings of no significant impact, and environmental impact statements (EIS) for airport development proposals and other airport actions as required by the National Environmental Policy Act of 1969 and its implementing regulations. FAA Order 5050.4 was reviewed to determine which, if any, sections would apply to the proposed improvements to the Cochise College Airport, and to determine if an EIS or any Federal action would be required.

FAA Order 5050.4, Chapter 1, Introduction and Definitions

- Chapter 1, Section 5.a (2) states that Federal action may be triggered for "Approval of an airport layout plan or revisions to an airport layout plan." Because all improvement options will revise the Cochise College Airport layout plan, this section applies.

- Chapter 1, Section 5.h discusses Major Runway Extension. In the case of Cochise College Airport, no physical runway extension is proposed.

.

- Chapter 1, Section 5.m requires the identification of "noise sensitive areas" which may be adversely affected by cumulative noise levels above 65 Ldn such as residential neighborhoods, educational, health or religious structures or sites and outdoor recreational, cultural and historic sites. A noise model was run for 1999 and 2020 flight operations.

FAA Order 5050.4, Chapter 3, Environmental Action Choices

- **Section 20** explains that all Federal actions on airports fall into three categories: Those that normally require an environmental impact statement, those that require an environmental assessment, and those that are normally categorically excluded.

- **Section 21** outlines two actions, first time airport layout or location approval and new runway approval that normally require an environmental impact statement. Neither of the two actions in this section applies to Cochise College Airport.

- **Section 22** outlines actions that normally require an environmental assessment (airport location, new runway, major runway extension and runway strengthening). None of the actions outlined in this section, including land acquisition (paragraph 8), involves "airport development action" that falls within the scope of paragraph 24 or which involves: use of section 4(f) land, historical, architectural, archeological, or culturally significant property, conversion of farmland scoring over 160 on Form AD-1106 protected under the Farmland Protection Policy Act to non agricultural use, wetlands, coastal zones, or floodplains, and endangered or threatened species.

  None of these appear to apply to the land to be acquired by Cochise College Airport. As described earlier, most of the land in and around Cochise College and the Cochise College Airport has been disturbed by agriculture, mining, and the activities of the college itself. The paragraphs below describe each issue raised in Section 22.

  Section 4(f), Archeological, Historical, and Cultural Resources. As noted in the Existing Conditions Chapter, SHPO, the Arizona History Museum, and BLM were contacted for this report. The Arizona State History Museum (and the Arizona SHPO) have records of surveys conducted in 1970, 1992 and 1995. No artifacts or sites were located on the airport grounds. In addition, the 1984 Master Plan employed an independent archaeological surveyor to evaluate the possibility of archeologically or culturally significant sites along the route of an extension to the taxiway. No evidence of cultural materials was found at that time. A copy of the original 1984 report and the other surveys are included in Appendix D.

  No 4(f) sites are known to occur in the vicinity of the airport. Therefore, no "use" as defined in Section 4(f) is anticipated by this action.

  No survey of the acreage to be acquired from the agricultural operation at the runway ends has been completed for this project. An archeological / cultural survey should be undertaken in advance of construction activities to verify that no sites are present. Should any resources be discovered before or

during construction, SHPO clearance must be given and mitigation undertaken, if necessary, before the project can continue.

Farmland. The issues raised in Form AD-1006 were reviewed, but the form was not completed, for this plan because local farmland preservation policies and farming statistics were not researched. Form AD-1006 focuses on nonurban uses surrounding the farmland in question and distance to urban built-up areas and urban services, access, number of year farming has been done on the subject site, local government farmland protection policies, the size of the site compared to the average size farm unit in the county, the proportion of land to be converted from farm use compared to land remaining in farming, composition and condition of on-farm investments, whether the conversion of the farmland would reduce demand for farm support services in the area, and the compatibility of the conversion use and likelihood further conversion.

The grazing land that is proposed for avigation easement or acquisition does not appear to have the criteria to score over 160 on Form AD-1006. The land to be acquired is only 60 acres of Section 2 (640 acres) on the east and 40 acres of Section 8 (640 acres) on the west. These two sections do not compose the entire farm of approximately 5 sections of land. No records or observation of endangered or threatened species were uncovered during research or field reconnaissance, nor is it known to contain 4(f) land or any culturally or historically significant properties. Form AD-1006 is included in the appendix. The airport and this agricultural operation have proven compatibility over a 32-year period.

Wetland. A wetlands study has not been conducted on the land to be acquired. None of the three wetland indicators were uncovered during research or field inspection. The National Wetlands Inventory has no mapped data available in the area of the airport.

Coastal Zone. There are no coastal zones in this area

Floodplain. The Cochise College Airport and parts of the land to be acquired are partially located in a 100-year floodplain (Zone A) with the balance of the area located in Zone C (Areas of minimal flooding). According to Cochise County officials, this flooding is likely to be sheet flooding caused by heavy seasonal rains. The areas to be acquired will not be adversely affected by the acquisition because their physical composition and surroundings will not be changed. An excerpt of the applicable Federal Emergency Management Agency, Flood Insurance Rate Map of these sites is included in Appendix E.

Threatened and Endangered Species. The US Fish and Wildlife Service has provided a list of threatened, endangered, proposed and candidate species that includes all those potentially occurring anywhere in Cochise County. This information includes general descriptions, habitat requirements, and other information for each species on the list.

While a formal habitat investigation has not been conducted at either of the potential acquisition sites for the plant species listed, no habitats are known to occur in those areas. The plant species in question are:

- Canelo Hills Ladies' Tresses. Habitat: Finely grained, highly organic, saturated soils of Cienegas. (No saturated soils were uncovered during research and reconnaissance of the improvement sites.)
- Cochise Pincushion Cactus. Habitat: Semidesert grassland with small shrubs, agave, other cacti, and grama grass. Grows on gray limestone hills. (There are no gray limestone hills were uncovered during research and reconnaissance in the improvement sites.)
- Huachuca Water Umbel. Habitat: Cienegas, perennial low gradient streams or wetlands. (While a wetlands study has not been conducted, no known low gradient streams or wetlands indictors were uncovered during research and reconnaissance in the improvement sites. NWI maps for this area do not contain any wetland data.)

While no formal habitat investigation as been done on the potential airport acquisition sites for the fauna species listed, only a few potential habitats appear to potentially occur:

- Lesser Long-Nosed Bat: Habitat: Desert Scrub with agave and columnar cacti present as food plants. (The college campus and surrounding parcels occur in highly disturbed and grazed desert scrub.)
- Chiricahua leopard frog (proposed species): Habitat: Streams, rivers, backwaters, ponds, and stock tanks that are free from introduced fish and bullfrogs. Require permanent or nearly permanent water sources.

  According to the State of Arizona Game and Fish Department, the Chiricahua leopard frog, Rana chiricahuensis, is the only Threatened or Endangered Species known to potentially exist within 5 miles of the Cochise College Airport. The Chiricahua leopard frog would exist there only to the extent that suitable habitat would be available, including permanent drainage areas where water might collect. Stock tanks with water may occur in the rodeo training ground on the campus north of the airport area or in the privately owned surrounding grazing land parcels. Additional information on the status of this species is located in Appendix F. In the areas of proposed acquisition, there are no known permanent water sources.

  A habitat search based on this information, and additional information in the appendix should be conducted in the areas proposed for acquisition to verify that no threatened or endangered species habitat is present.

If any 4(f) land, cultural or archeological evidence, wetlands, or the habitat of any threatened or endangered species is found during construction of the apron, all activities must be halted and in investigation must be done. Mitigation must be undertaken as necessary.

- **Section 23 a**. outlines categorical exclusions. Unless specifically covered by Paragraphs 21, 22, 24, or 26, many items are categorically excluded from the requirement for formal environmental assessment. However, Paragraphs 21, 22, 24 and 26 must be reviewed.

  Paragraph a. (1) lists items that are categorically excluded from the requirement for formal environmental assessment but requires review of paragraphs 21, 22, 24, and 26 for runway, taxiway, apron, or loading ramp construction or repair work including extension, strengthening, reconstruction, resurfacing, marking, grooving, fillets and jet blast facilities, and new heliports on existing airports, except where such action will create environmental impacts off airport property. This paragraph does not apply because none of the listed work is being undertaken and there will be no environmental impacts off the airport property.

  Paragraph a. (2) allows for the installation or upgrading of airfield lighting systems as a categorical exclusion if Paragraphs 21, 22, 24 and 26 are reviewed. The work proposed is for medium intensity lighting to improve night vision and safety, runway identifier lights for improved identification. These lighting improvements are not affected by Paragraph 21, 22, 24 or 26.

  Paragraphs a. (3) miscellaneous items, a. (4) passenger handling facilities and a. (5) service road work do not apply. There are no miscellaneous items being installed, no passenger handling facility and no service road work.

  Paragraph a. (6) grading or removal of obstructions on airport property may apply if some ancillary buildings on the airport property are removed to increase the building restriction line. Again, these changes are categorical exclusions except as they refer to Paragraphs 21, 22, 24 and 26. Because the buildings are within the existing airport propertythese improvements are not affected by Paragraph 21, 22, 24, or 26 and are thus categorical exclusions.

  Paragraphs (7), landscaping, and (8), noise compatibility programs do not apply. No landscaping is being proposed within the improvement area and no noise compatibility program is in effect or being proposed.

  Paragraph (9) land acquisition will apply as a categorical exclusion because lands at the ends of Runway 05-23 are proposed to be acquired. However, no housing relocations and no land use changes are proposed with the land acquisition. These acquisitions are not affected by Paragraph 21, 22, 24, or 26 and are thus categorical exclusions.

  Paragraph (10) Federal release of airport land does not apply.

  As described earlier, agriculture, mining, and the activities of the college itself have disturbed most of the land in and around Cochise College and the Cochise College Airport. However, two issues must be specifically discussed because studies may need to be undertaken.

As discussed above, the US Fish and Wildlife Service has provided a list of threatened, endangered, proposed and candidate species that includes all those potentially occurring anywhere in Cochise County. This information includes general descriptions, habitat requirements, and other information for each species on the list.

While a formal habitat investigation as not been conducted at any of the potential improvement sites, of the plant species or animal species listed, no habitats were uncovered during research and reconnaissance in the proposed improvement areas. The subject species are listed above and in the appendix.

A habitat search based on this information, and additional information in the appendix should be conducted in the proposed improvement areas in advance of construction activities to verify that no threatened or endangered species habitat is present.

As noted in the **NATURAL ENVIRONMENT** Section, the 1984 Master Plan employed an independent archaeological surveyor to evaluate the possibility of archeologically or culturally significant sites along the route of an extension to the taxiway. No evidence of cultural materials was found at that time. A copy of the original report is included in the appendix.

For this report, SHPO, Arizona History Museum, and BLM were contacted to ascertain whether any sites on the campus and airport were known. Results of those surveys are discussed in Existing Conditions and above. No survey has been conducted along the potential 5-foot to 10-foot wide area needed to widen the parallel taxiway, or the location of the potential 10-plane expansion of the tie-down apron. While no known archeological or cultural sites were uncovered during research and reconnaissance on the airport, an archeological / cultural survey should be undertaken in advance of construction activities to verify that no sites are present. Should any resources be discovered before or during construction, SHPO clearance must be given and mitigation undertaken, if necessary, before construction can continue.

- **Section 23 b**. lists items that are categorically excluded. None of the paragraphs apply to the Cochise College Airport except Paragraph (4). The Airport Improvement Program actions are tentative and conditional and area clearly being taken as a preliminary action to establish the sponsor's eligibility under the Program.

- **Section 24** outlines extraordinary circumstances. These are Proposed Federal actions which are normally categorically excluded but which have characteristics that are the subject of an environmental assessment. The FAA will determine whether the action will be the subject of an environmental impact statement or finding of no significant impact.

  No formal survey of the Cochise College Airport grounds proposed for improvements or acquisition has been undertaken for historic or cultural resources, 4(f) land, or threatened and endangered species, but none of the paragraphs of this section appear at present to apply as noted in the previous sections. Specifically, by paragraph:

(a) As stated above, there are no known historic, known 4(f), or protected farmlands affected by the proposed projects. None of these resources were uncovered during research and reconnaissance;

(b) The actions are not known to be controversial on environmental grounds;

(c) The actions will have no presently known significant impacts on natural, ecological, cultural or scenic resources. None of these resources were uncovered during research and reconnaissance;

(d) There will be no relocation of persons or businesses;

(e) There will be no substantial division or disruption of an established community or disruption or orderly, planned development – the project is consistent with plans or goals of the community, there will not be any significant increase in surface traffic congestion;

(f) Noise, air quality, water quality, and consistency with Federal, state and local laws are not affected; and

(g) Humans will not be directly or indirectly affected by creating a significant impact on the environment.

- **Section 25** outlines advisory actions that may be indicated by the FAA.

- **Section 26** outlines potential cumulative impacts. Most of the improvements are located on land currently owned and used by the Cochise College Airport, and because these relatively minor improvements are located adjacent to current facilities (runways, taxiways, and apron areas), the cumulative impacts would be minimal. There will be no off-site evidence of the improvements. The acquisition of farmland at the ends of Runway 05-23, because there will be no significant change in the use of the land and no resident or business relocations, will also have minimal cumulative impacts.

FAA Order 5050.4, Chapter 4, Special Instructions

- **Section 30 a, b, c**, discusses applicability, general information and approvals. FAA reviews planned development of new runways, runway extensions, terminal building, or other major and supportive development shown on an airport layout plan with respect to safety, efficiency, utility, and environmental impact. An approval may be unconditional if all environmental approvals are in place or subject to conditions when environmental action has not been completed.

- **Section 33** discusses land acquisition. The FAA requires demonstration to its satisfaction that the acquisition of property for airport use is consistent with the environmental policies expressed in the 5050.4 order for a "full and objective consideration of alternatives or limited possible implementation of a preferable alternative." The items that must be considered include preservation of natural beauty of the countryside, public parks and recreation lands, wildlife and waterfowl refuges, and historic sites. In addition, "particular attention" must be paid to

wetlands, floodplains, coastal zones, endangered species, properties in or eligible for inclusion in the National Register of Historic Places, and the provisions of Title VI of the Civil Rights Act of 1964 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Each of these issues has been discussed above. Some of that information is reiterated below.

The recommended acquisition of 60 acres of land at the east end and 40 acres at the west end of Runway 05-23 does not appear, at present, to affect any of the environmental aspects listed in this section. None of these resources were uncovered during research and reconnaissance See letters from applicable local, state and Federal agencies included in the appendix.

As described in the **NATURAL ENVIRONMENT** Section, the lands to be acquired to protect the Runway Protection Zone are currently in use for cultivation and grazing. However, during the widening of the taxiway and construction of the apron should any archeological resources, wetlands, or threatened or endangered species habitat be found, construction activities must be stopped immediately and expert analysis must be engaged and mitigation measures, if necessary, be immediately undertaken.

Table 8-7 summarizes the findings of each issue in regard to the type of improvements proposed.

FATAL FLAWS ANALYSIS CONCLUSION

There do not appear to be any fatal flaws associated with the proposed improvements to the Cochise College Airport. At this time it is unlikely that an EIS or any other Federal action would be required. However, appropriate studies and precautions should be undertaken before and during all improvements to ensure that the environmental integrity of the airport and its lands are preserved and that no local, state, or Federal environmental regulation is violated. If during any of the improvement activities any cultural resources, wetlands, or threatened or endangered species habitat are found, the improvement activities must be stopped immediately, expert analysts engaged and mitigation measures, if necessary, undertaken.
Chapter 1, Section 5.m of FAA Order 5050.4 requires the identification of "noise sensitive areas" which may be adversely affected by cumulative noise levels above 65 Ldn such as residential neighborhoods, educational, health or religious structures or sites and outdoor recreational, cultural and historic sites.

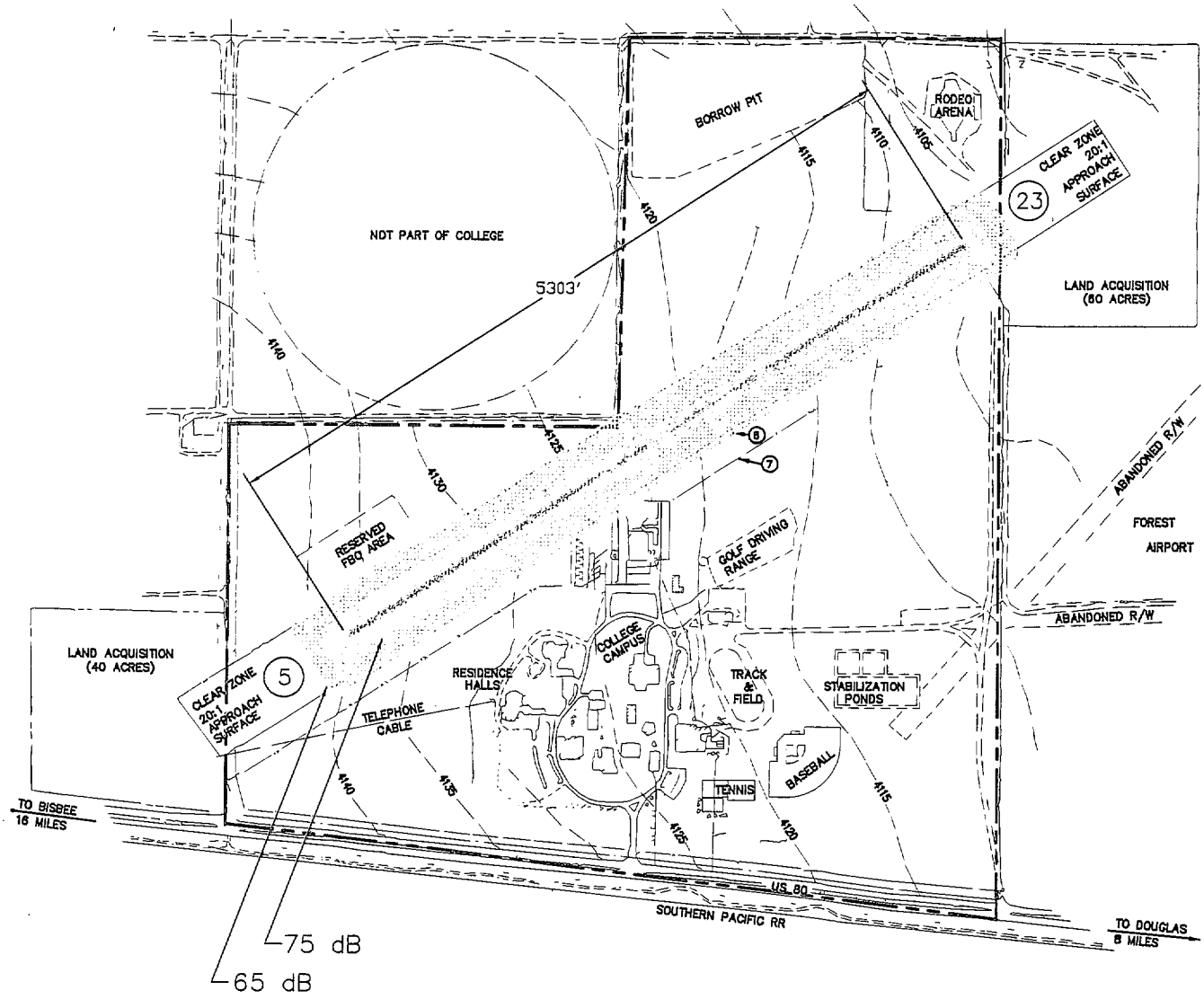
The Integrated Noise Model run for this study indicates no significant impact and requires no additional mitigation.

Table 8-7
ENVIRONMENTAL FATAL FLAW ANALYSIS SUMMARY
(Items listed in Section 33)

Issue	Runway Widening	Taxiway Widening	Tie-down Expansion	Land Acquisition
		Natural Environment		
Preservation of Natural Beauty of the Countryside	No effect	No effect	No effect	No effect
Wetlands	No apparent effect – site investigation recommended	No apparent effect – site investigation recommended	No apparent effect – site investigation recommended	No apparent effect – site investigation recommended
Coastal Zones	Not applicable	Not applicable	Not applicable	Not applicable
Endangered Species - Flora	No apparent effect	No apparent effect	No apparent effect	No apparent effect
Endangered Species - Fauna	No apparent effect	No apparent effect	No apparent effect – site investigation recommended	No apparent effect – site investigation recommended
Historic/Cultural Resources	No apparent effect	No apparent effect	No apparent effect – site investigation recommended	No apparent effect
Air Quality	No apparent effect	No apparent effect	No apparent effect	No apparent effect
Flood Plains	No apparent effect	No apparent effect	No apparent effect	No apparent effect
		Built Environment		
Land Use Compatibility	Compatible	Compatible	Compatible	Compatible
Zoning / Regulations	Complies	Complies	Complies	Complies
Public Parks and Recreation Lands	Compatible	Compatible	Compatible	Compatible
Noise Compatibility	Compatible	Compatible	Compatible	Compatible

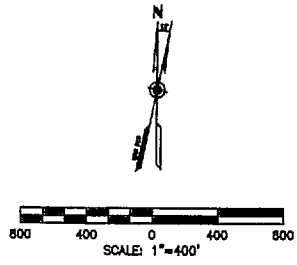
This Page Intentionally Left Blank

2000 FLIGHT OPERATIONS



LEGEND

- 65dB (OUTER ZONE)
- 75dB (INNER ZONE)
- RUNWAY AREA (INTERIOR)
- AIRPORT PROPERTY LINE



COCHISE COLLEGE AIRPORT NOISE CONTOURS

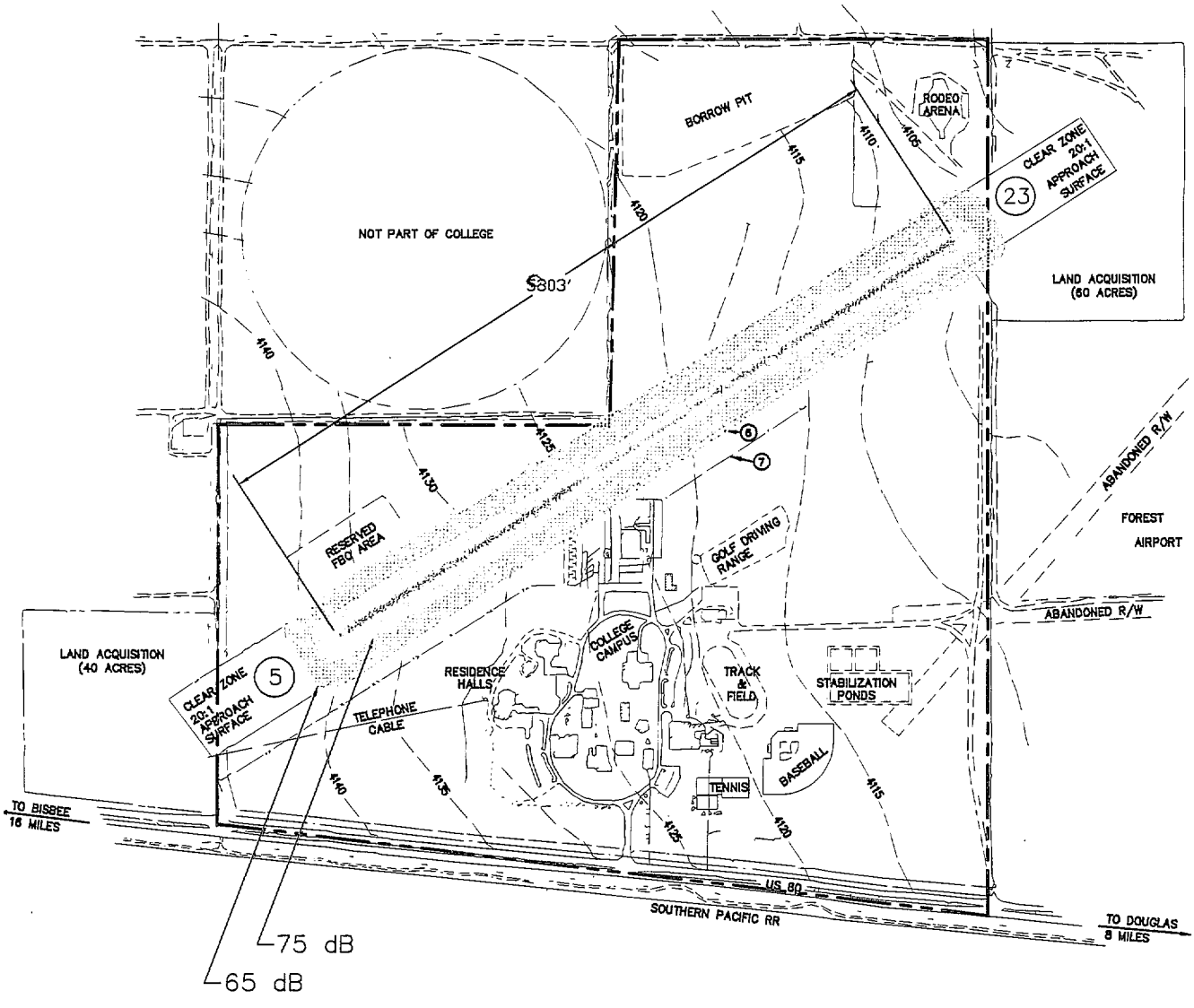
FIGURE 8-1 | JOB NO. 6834

DMJM
Planning
Transportation
Architecture
Engineering
Program/Construction Management
Daniel, Mann, Johnson, & Mendenhall
2950 Professional Place
Colorado Springs, CO 80904

PAGE

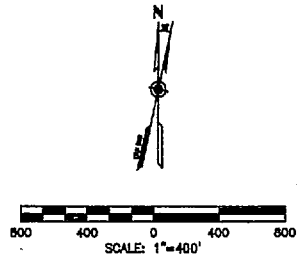
Date Prepared: 08/10/00 Drawing: N:/6834/Prod/Civ/20000PSEXH.dwg

2020 FLIGHT OPERATIONS



LEGEND

- 65dB (OUTER ZONE)
- 75dB (INNER ZONE)
- RUNWAY AREA (INTERIOR)
- AIRPORT PROPERTY LINE



COCHISE COLLEGE AIRPORT NOISE CONTOURS

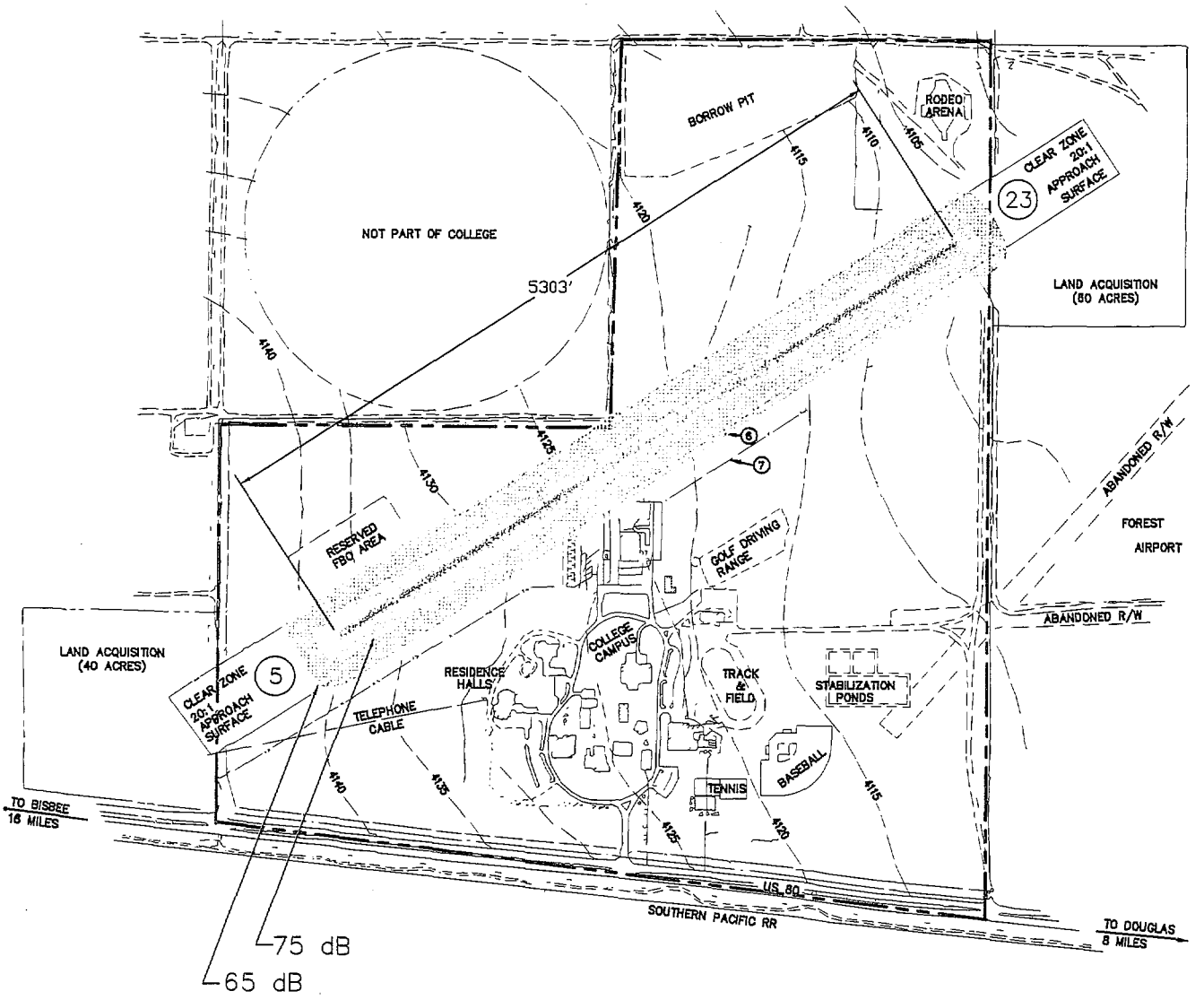
FIGURE 8-2 | JOB NO. 6834

DMJM
Planning
Transportation
Architecture
Engineering
Program/Construction
Management
Daniel, Mann, Johnson, & Mendenhall
2950 Professional Place
Colorado Springs, CO 80904

PAGE

Date Prepared: 08/10/00 Drawing: N:/6834/Prod/Civ/2020OPSEXH.dwg

2020 FLIGHT OPERATIONS
WITH TURBOPROP AIRCRAFT



LEGEND

- 65dB (OUTER ZONE)
- 75dB (INNER ZONE)
- RUNWAY AREA (INTERIOR)
- AIRPORT PROPERTY LINE

N

800 400 0 400 800
SCALE: 1"=400'

COCHISE COLLEGE AIRPORT NOISE CONTOURS

FIGURE 8-3 | JOB NO. 6834

DMJM
Planning
Transportation
Architecture
Engineering
Program/Construction
Management
Daniel, Mann, Johnson, & Mendenhall
2950 Professional Place
Colorado Springs, CO 80904

PAGE

Date Prepared: 08/10/00
Drawing: N:/6834/Prod/Civ/2020TOPSEXH.dwg